

(4) The personal protective equipment (PPE) that must be made available and worn as required by 29 CFR Part 1915, Subpart I.

(b) *Posting fire watches.* The employer must post a fire watch if during hot work any of the following conditions are present:

(1) Slag, weld splatter, or sparks might pass through an opening and cause a fire;

(2) Fire-resistant guards or curtains are not used to prevent ignition of combustible materials on or near decks, bulkheads, partitions, or overheads;

(3) Combustible material closer than 35 ft. (10.7m) to the hot work in either the horizontal or vertical direction cannot be removed, protected with flame-proof covers, or otherwise shielded with metal or fire-resistant guards or curtains;

(4) The hot work is carried out on or near insulation, combustible coatings, or sandwich-type construction that cannot be shielded, cut back, or removed, or in a space within a sandwich type construction that cannot be inerted;

(5) Combustible materials adjacent to the opposite sides of bulkheads, decks, overheads, metal partitions, or sandwich-type construction may be ignited by conduction or radiation;

(6) The hot work is close enough to cause ignition through heat radiation or conduction on the following:

(i) Insulated pipes, bulkheads, decks, partitions, or overheads; or

(ii) Combustible materials and/or coatings;

(7) The work is close enough to unprotected combustible pipe or cable runs to cause ignition; or

(8) A Marine Chemist, a Coast Guard-authorized person, or a shipyard Competent Person, as defined in 29 CFR Part 1915, Subpart B, requires that a fire watch be posted.

(c) *Assigning employees to fire watch duty.* (1) The employer must not assign other duties to a fire watch while the hot work is in progress.

(2) Employers must ensure that employees assigned to fire watch duty:

(i) Have a clear view of and immediate access to all areas included in the fire watch;

(ii) Are able to communicate with workers exposed to hot work;

(iii) Are authorized to stop work if necessary and restore safe conditions within the hot work area;

(iv) Remain in the hot work area for at least 30 minutes after completion of the hot work, unless the employer or its representative surveys the exposed area and makes a determination that there is no further fire hazard;

(v) Are trained to detect fires that occur in areas exposed to the hot work;

(vi) Attempt to extinguish any incipient stage fires in the hot work area that are within the capability of available equipment and within the fire watch's training qualifications, as defined in § 1915.508;

(vii) Alert employees of any fire beyond the incipient stage; and

(viii) If unable to extinguish fire in the areas exposed to the hot work, activate the alarm.

(3) The employer must ensure that employees assigned to fire watch are physically capable of performing these duties.

§ 1915.505 Fire response.

(a) *Employer responsibilities.* The employer must:

(1) Decide what type of response will be provided and who will provide it; and

(2) Create, maintain, and update a written policy that:

(i) Describes the internal and outside fire response organizations that the employer will use; and

(ii) Defines what evacuation procedures employees must follow, if the employer chooses to require a total or partial evacuation of the worksite at the time of a fire.

(b) *Required written policy information—*(1) *Internal fire response.* If an internal fire response is to be used, the employer must include the following information in the employer's written policy:

(i) The basic structure of the fire response organization;

(ii) The number of trained fire response employees;

(iii) The fire response functions that may need to be carried out;

(iv) The minimum number of fire response employees necessary, the number and types of apparatuses, and a description of the fire suppression operations established by written standard operating procedures for each type of fire response at the employer's facility;

(v) The type, amount, and frequency of training that must be given to fire response employees; and

(vi) The procedures for using protective clothing and equipment.

(2) *Outside fire response.* If an outside fire response organization is used, the employer must include the following information in the written policy:

(i) The types of fire suppression incidents to which the fire response organization is expected to respond at the employer's facility or worksite;

(ii) The liaisons between the employer and the outside fire response organizations; and

(iii) A plan for fire response functions that:

(A) Addresses procedures for obtaining assistance from the outside fire response organization;

(B) Familiarizes the outside fire response organization with the layout of the employer's facility or worksite, including access routes to controlled areas, and site-specific operations, occupancies, vessels or vessel sections, and hazards; and,

(C) Sets forth how hose and coupling connection threads are to be made compatible and includes where the adapter couplings are kept; or

(D) States that the employer will not allow the use of incompatible hose connections.

(3) *A combination of internal and outside fire response.* If a combination of internal and outside fire response is to be used, the employer must include the following information, in addition to the requirements in paragraphs (b)(1) and (2) of this section, in the written policy:

(i) The basic organizational structure of the combined fire response;

(ii) The number of combined trained fire responders;

(iii) The fire response functions that may need to be carried out;

(iv) The minimum number of fire response employees necessary, the number and types of apparatuses, and a de-

scription of the fire suppression operations established by written standard operating procedures for each particular type of fire response at the worksite; and

(v) The type, amount, and frequency of joint training with outside fire response organizations if given to fire response employees.

(4) *Employee evacuation.* The employer must include the following information in the employer's written policy:

(i) Emergency escape procedures;

(ii) Procedures to be followed by employees who may remain longer at the worksite to perform critical shipyard employment operations during the evacuation;

(iii) Procedures to account for all employees after emergency evacuation is completed;

(iv) The preferred means of reporting fires and other emergencies; and

(v) Names or job titles of the employees or departments to be contacted for further information or explanation of duties.

(5) *Rescue and emergency response.* The employer must include the following information in the employer's written policy:

(i) A description of the emergency rescue procedures; and

(ii) Names or job titles of the employees who are assigned to perform them.

(c) *Medical requirements for shipyard fire response employees.* The employer must ensure that:

(1) All fire response employees receive medical examinations to assure that they are physically and medically fit for the duties they are expected to perform;

(2) Fire response employees, who are required to wear respirators in performing their duties, meet the medical requirements of § 1915.154;

(3) Each fire response employee has an annual medical examination; and

(4) The medical records of fire response employees are kept in accordance with § 1915.1020.

(d) *Organization of internal fire response functions.* The employer must:

(1) Organize fire response functions to ensure enough resources to conduct emergency operations safely;

(2) Establish lines of authority and assign responsibilities to ensure that the components of the internal fire response are accomplished;

(3) Set up an incident management system to coordinate and direct fire response functions, including:

(i) Specific fire emergency responsibilities;

(ii) Accountability for all fire response employees participating in an emergency operation; and

(iii) Resources offered by outside organizations; and

(4) Provide the information required in this paragraph (d) to the outside fire response organization to be used.

(e) *Personal protective clothing and equipment for fire response employees*—(1) *General requirements.* The employer must:

(i) Supply to all fire response employees, at no cost, the appropriate personal protective clothing and equipment they may need to perform expected duties; and

(ii) Ensure that fire response employees wear the appropriate personal protective clothing and use the equipment, when necessary, to protect them from hazardous exposures.

(2) *Thermal stability and flame resistance.* The employer must:

(i) Ensure that each fire response employee exposed to the hazards of flame does not wear clothing that could increase the extent of injury that could be sustained; and

(ii) Prohibit wearing clothing made from acetate, nylon, or polyester, either alone or in blends, unless it can be shown that:

(A) The fabric will withstand the flammability hazard that may be encountered; or

(B) The clothing will be worn in such a way to eliminate the flammability hazard that may be encountered.

(3) *Respiratory protection.* The employer must:

(i) Provide self-contained breathing apparatus (SCBA) to all fire response employees involved in an emergency operation in an atmosphere that is immediately dangerous to life or health (IDLH), potentially IDLH, or unknown;

(ii) Provide SCBA to fire response employees performing emergency operations during hazardous chemical

emergencies that will expose them to known hazardous chemicals in vapor form or to unknown chemicals;

(iii) Provide fire response employees who perform or support emergency operations that will expose them to hazardous chemicals in liquid form either:

(A) SCBA, or

(B) Respiratory protective devices certified by the National Institute for Occupational Safety and Health (NIOSH) under 42 CFR Part 84 as suitable for the specific chemical environment;

(iv) Ensure that additional outside air supplies used in conjunction with SCBA result in positive pressure systems that are certified by NIOSH under 42 CFR Part 84;

(v) Provide only SCBA that meet the requirements of NFPA 1981–2002 Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services (incorporated by reference, see § 1915.5); and

(vi) Ensure that the respiratory protection program and all respiratory protection equipment comply with § 1915.154.

(4) *Interior structural firefighting operations.* The employer must:

(i) Supply at no cost to all fire response employees exposed to the hazards of shipyard fire response, a helmet, gloves, footwear, and protective hoods, and either a protective coat and trousers or a protective coverall; and

(ii) Ensure that this equipment meets the applicable recommendations in NFPA 1971–2000 Standard on Protective Ensemble for Structural Fire Fighting (incorporated by reference, see § 1915.5).

(5) *Proximity firefighting operations.* The employer must provide, at no cost, to all fire response employees who are exposed to the hazards of proximity firefighting, appropriate protective proximity clothing meets the applicable recommendations in NFPA 1976–2000 Standard on Protective Ensemble for Proximity Fire Fighting (incorporated by reference, see § 1915.5).

(6) *Personal Alert Safety System (PASS) devices.* The employer must:

(i) Provide each fire response employee involved in firefighting operations with a PASS device; and

(ii) Ensure that each PASS device meets the recommendations in NFPA

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1982–1998 Standard on Personal Alert Safety Systems (PASS), (incorporated by reference, see § 1915.5).

(7) *Life safety ropes, body harnesses, and hardware.* The employer must ensure that:

(i) All life safety ropes, body harnesses, and hardware used by fire response employees for emergency operations meet the applicable recommendations in NFPA 1983–2001, Standard on Fire Service Life Safety Rope and System Components (incorporated by reference, see § 1915.5);

(ii) Fire response employees use only Class I body harnesses to attach to ladders and aerial devices; and

(iii) Fire response employees use only Class II and Class III body harnesses for fall arrest and rappelling operations.

(f) *Equipment maintenance*—(1) *Personal protective equipment.* The employer must inspect and maintain personal protective equipment used to protect fire response employees to ensure that it provides the intended protection.

(2) *Fire response equipment.* The employer must:

(i) Keep fire response equipment in a state of readiness;

(ii) Standardize all fire hose coupling and connection threads throughout the facility and on vessels and vessel sections by providing the same type of hose coupling and connection threads for hoses of the same or similar diameter; and

(iii) Ensure that either all fire hoses and coupling connection threads are the same within a facility or vessel or vessel section as those used by the outside fire response organization, or supply suitable adapter couplings if such an organization is expected to use the fire response equipment within a facility or vessel or vessel section.

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§ 1915.506 Hazards of fixed extinguishing systems on board vessels and vessel sections.

(a) *Employer responsibilities.* The employer must comply with the provisions of this section whenever employees are exposed to fixed extinguishing systems that could create a dangerous

atmosphere when activated in vessels and vessel sections, regardless of geographic location.

(b) *Requirements for automatic and manual systems.* Before any work is done in a space equipped with fixed extinguishing systems, the employer must either:

(1) Physically isolate the systems or use other positive means to prevent the systems' discharge; or

(2) Ensure employees are trained to recognize:

(i) Systems' discharge and evacuation alarms and the appropriate escape routes; and

(ii) Hazards associated with the extinguishing systems and agents including the dangers of disturbing system components and equipment such as piping, cables, linkages, detection devices, activation devices, and alarm devices.

(c) *Sea and dock trials.* During trials, the employer must ensure that all systems shall remain operational.

(d) *Doors and hatches.* The employer must:

(1) Take protective measures to ensure that all doors, hatches, scuttles, and other exit openings remain working and accessible for escape in the event the systems are activated; and

(2) Ensure that all inward opening doors, hatches, scuttles, and other potential barriers to safe exit are removed, locked open, braced, or otherwise secured so that they remain open and accessible for escape if systems' activation could result in a positive pressure in the protected spaces sufficient to impede escape.

(e) *Testing the system.* (1) When testing a fixed extinguishing system involves a total discharge of extinguishing medium into a space, the employer must evacuate all employees from the space and assure that no employees remain in the space during the discharge. The employer must retest the atmosphere in accordance with § 1915.12 to ensure that the oxygen levels are safe for employees to enter.

(2) When testing a fixed extinguishing system does not involve a total discharge of the systems extinguishing medium, the employer must make sure that the system's extinguishing medium is physically isolated